



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,476	07/30/2003	Hideaki Miura	890050.435	9206

500 7590 05/25/2006

SEED INTELLECTUAL PROPERTY LAW GROUP PLLC  
701 FIFTH AVE  
SUITE 6300  
SEATTLE, WA 98104-7092

EXAMINER

GUPTA, PARUL H

ART UNIT	PAPER NUMBER
----------	--------------

2627

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/630,476

Applicant(s)

MIURA ET AL.

Examiner

Parul Gupta

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8 and 12 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 9-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-12 are pending for examination as interpreted by the examiner. The IDS filed on 8/11/05 was considered.

#### ***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-3, 6-8, and 12 are rejected under 35 U.S.C. 102(a) as being anticipated by Shinotsuka et al., US Patent 7,012,878.

Regarding claim 1, Shinotsuka et al. teaches a method for initializing recording films of an optical recording medium including a plurality of recording layers (column 6, lines 57-62) each including a recording film and which is formed so that a transparent intermediate layer is interposed between each adjacent pair of the recording layers (shown in elements 104 and 204 of figure 2 and explained in column 7, lines 65-67), by projecting a laser beam whose power can be controlled within a predetermined range onto the recording films and simultaneously crystallizing and initializing the recording films (shown in elements 102, 106, 202, and 206 of figure 2 and described in column 7, lines 65-67), the method for initializing recording films of an optical recording medium comprising steps of setting a power of the laser beam and a position of a focus of the laser beam so that energy of the laser beam projected onto each of the recording films is equal to or higher than a minimum initialization energy which can crystallize and initialize the recording film irradiated with the laser beam (column 21, lines 19-33 show how the crystallization state requires 15% of the reflected light of the recording layer),

and projecting the laser beam onto the recording films of the optical recording medium (shown in figure 2).

Regarding claim 2, Shinotsuka et al. teaches a method for initializing recording films of an optical recording medium in accordance with claim 1 wherein the laser beam is focused so that the focus thereof is located in a transparent intermediate layer ("separation layer" of column 20, lines 30-39).

Regarding claim 3, Shinotsuka et al. teaches a method for initializing recording films of an optical recording medium in accordance with claim 2 wherein the laser beam is condensed by an objective lens onto a transparent intermediate layer to have a depth of focus  $D$  so that  $d \geq \lambda / NA^2$  is satisfied (column 20, line 39), where  $d$  is a thickness of the transparent intermediate layer,  $\lambda$  is a wavelength of the laser beam and  $NA$  is a numerical aperture of the objective lens.

Regarding claim 6, Shinotsuka et al. teaches an apparatus (shown in figure 3) for initializing recording films of an optical recording medium including a plurality of recording layers (elements 104 and 204 of figure 2) each including a recording film (elements 102, 106, 202, and 206 of figure 2) and which is formed so that a transparent intermediate layer (film mentioned previously) is interposed between each adjacent pair of the recording layers, by projecting a laser beam onto the recording films and simultaneously crystallizing and initializing the recording films (column 9, lines 17-25), the apparatus for initializing recording films of an optical recording medium comprising a semiconductor laser adapted for emitting a laser beam and movable in a direction perpendicular to a surface of the optical recording medium (shown in figure 2), an

Art Unit: 2627

objective lens for converging the laser beam (column 20, lines 47-51) and a controller for controlling overall operation of the apparatus for initializing recording films of an optical recording medium, the controller being constituted so as to set a power of the laser beam emitted from the semiconductor laser and a position of the semiconductor laser in the direction perpendicular to the surface of the optical recording medium (shown in figure 2) so that energy of the laser beam projected onto each of the recording films is equal to or higher than a minimum initialization energy which can crystallize and initialize the recording film irradiated with the laser beam (column 21, lines 19-33 show how the crystallization state requires 15% of the reflected light of the recording layer), and projecting the laser beam onto the recording films of the optical recording medium (shown in figure 2).

Regarding claim 7, Shinotsuka et al. teaches an apparatus for initializing recording films of an optical recording medium in accordance with claim 6 wherein the controller is constituted so as to set the position of the semiconductor laser in the direction perpendicular to the surface of the optical recording medium (shown in figure 2) so that the focus of the laser beam is located in a transparent intermediate layer ("separation layer" of column 20, lines 30-39).

Regarding claim 8, Shinotsuka et al. teaches an apparatus for initializing recording films of an optical recording medium in accordance with claim 7 wherein the semiconductor laser and the objective lens are selected to produce a depth of focus  $D$  so that  $d \geq \lambda / NA^2$  is satisfied (column 20, line 39), where  $d$  is a thickness of the

transparent intermediate layer,  $\lambda$  is a wavelength of the laser beam and NA is a numerical aperture of the objective lens.

Regarding claim 12, Shinotsuka et al. teaches an optical recording medium in accordance with claim 11 wherein the recording film included in the first recording layer and the recording film included in the second recording layer contain a phase change material as a primary component (column 7, lines 42-57).

### ***Allowable Subject Matter***

3. Claims 4, 5, 9, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claim would be allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose the clause of the claims that refers to the given ratios for the minimum initialization energy of various recording layers.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 8:30 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PHG  
5/19/06



THANG V. TRAN  
PRIMARY EXAMINER